

ENVIRONMENTAL EDUCATION & AWARENESS PROGRAMME PLANNER

PROGRAMME TYPE (circle/cross): Teacher's workshop

DETAILS

Name of school/ group				N/A GRADE 5 TEACHERS – WORKSHOP ON BIODIVERSITY AND SOIL CONSERVATION			
No learners/ participants expected		Max 10	No learners/participants actual	N/A	Programme length/duration		2 hours
Location (reserve/site)			On reserve		Grade/age group		Adults
Is this part of the work plan?		N/A			If no, motivate why the programme is needed		Species conservation is a main awareness theme for CapeNature. The programme links to work done in the classroom and supports the curriculum. It is important to give teachers the tools to be able to deliver conservation messaging in the classroom.

CONTENT

	Theme (circle/cross)	Species Conservation
	Topics covered (e.g. water cycle/ importance of water)	Rocks and soil (with links to biodiversity)
Know	Curriculum link (for curriculum aligned programmes only) – note subject/strand/topics (if not listed in topics above)	Subject: Natural Science and Technology Grade 5 Strand2: Planet Earth and beyond and Systems and Control (the surface of the Earth) <ul style="list-style-type: none"> - Rocks - Soil types
	Prior knowledge required (if applicable)	Not compulsory, but knowledge of the words biodiversity, habitats, particles, topsoil, dependence, food chains would be an advantage
Do	Skills practiced (cross/circle)	connect explain identify label list name (know)/ analyse assess categorise classify compare compile compose conduct construct create collect link define describe design develop draw find investigate listen make plan present read recognise record report represent dance sing sort summarise trace use senses write count (do)/ argue commit discuss motivate promise relate choose decide explain an answer persuade propose tell share
Value	Key message (e.g. we must save water)	We need to take care of our soil.

GENERAL LOGISTICS

	Responsible person	Done (tick)	Status
Invite *			
Venue			
Transport			
Booking confirmed			
WCED permission *			
Presentation equipment & camera			
Risk assessment done, confirmation and checklist sent			
Catering *			

Other:

Plan requested by: _____ (name)

_____ (date)

Plan approved by: _____ (name)

_____ (date)

Indemnity *			
Budget and cost centre			

*If applicable

LESSON PLAN

Time	Location	Activity & explanation	Resources & person responsible for bringing/preparing the resource	Facilitating staff (if more than 1, indicate lead facilitator & timekeeper)
INTRODUCTION & ICEBREAKER				
2 min	Classroom	Introduce staff and briefly explain who CapeNature is	Presentation, laptop, projector	
2 min	Classroom	Go through the outcomes and any housekeeping/rules	Presentation, laptop, projector	
1 min	Classroom	Give a brief programme outline	Presentation, laptop, projector	
10 mins	Classroom	Icebreaker and introductions: Ask everyone to line up in alphabetical order using their names. Indicate where A starts and let them know that they may not say anything to each other. You will find that people find creative ways of showing one another the number of the alphabet or other ways to signal. Once the group has arranged themselves, ask each to test if they are right by introducing themselves (name, school and grade/subject teacher)	Presentation (included), laptop, projector (not included)	
BODY/ ACTIVITIES (very large groups, split and rotate)				
45 min		<p>Rocks & soil comes from rocks Showcase the activities for teachers</p> <p><u>Introduction</u> Teach that Earth is made of rocks. As a tuning in activity a bread roll can be used to show learners that there is a hard outside and a soft inside.</p> <p><u>Main activity</u> Teach that soil comes from rocks after being broken down over thousands of years. Learners can make particles from rock by rubbing these together. They can then use the table to fill in what type of soil they have. Teach that rocks break down in nature through a process called weathering. This means that heat and cold crack the rocks, wind and dust make holes in rocks and sea can break down rocks.</p> <p><u>Link to conservation</u> Ask why we need good soil – to grow crops, as a home for many plants and animals etc.</p> <p><u>Consolidation</u> Ask learners to draw a rock 1000 years ago, then what it may look like over a period of time. Learners must write a sentence for each picture to explain what is happening.</p> <p><u>Discussion</u> Discuss with the teachers briefly how these activities can be used and if they can be improved or adjusted</p>	Different types of rocks (not provided). Bread roll (not provided). Paper for learners to draw on. Presentation (included) laptop, projector (not included)	
45 min		<p>Soil types <u>Introduction</u></p>		

		<p>Teach that soil is a mixture of different types of rock particles. The type of soil depends on the proportions of particles in it.</p> <p><u>Main activity</u> Teach that there are different types of soil. Learners must be divided into groups of approximately 5 learners per group. Each group must take a container (see through) with loamy soil and add water to it. They must then wait for the soil to settle and draw a picture of the soil layers. They should attempt to label it, but after discussion, it can be labelled as a team with the teachers help. Teach that loamy soil has sand, silt and clay particles and humus. It is the best soil for planting with.</p> <p><u>Investigation</u> Explain that learners will compare and investigate how much water each type holds. Use page 24 Natural Science PSP Grade 5 Planet Earth and beyond to do the analysis of two different types of soil.</p> <p><u>Link to conservation</u> Explain that protecting our topsoil is very important as it cannot be replaced (it can but over thousands of years)</p> <p><u>Consolidation</u> Ask learners to do a shared writing exercise by describing the analysis of the soil in the main activity.</p> <p><u>Discussion</u> Discuss briefly with the teachers how these activities can be used and if they can be improved or adjusted.</p>	<p>2l coke bottle for each group, water, paper to record findings on, loamy soil (not included) Presentation (included) laptop, projector (not included) Whiteboard and coccis or chalk and chalkboard (not included)</p> <p>Primary Science Programme Teachers Guide: Natural Science and Technology Grade 5, Planet Earth and Beyond (copy provided below)</p>	
CONSOLIDATION & EVALUATION				
10 min	Classroom	Ask teachers to take a moment and write down 2 key words that indicate something they learned today and will take away and implement in the classroom. Share with the group.	Presentation (included), laptop, projector (not included) Paper (not included)	
5 min	Classroom	Thank the venue, teachers and hand out the brochure for teachers and evaluation forms	Evaluation forms & CapeNature EE offerings brochure (not included)	

Acknowledgement

Primary Science Programme (PSP),  , www.psp.org.za 

Topic **B**

The surface of the Earth

KEY CONCEPTS

- The surface of the Earth is called the crust. It consists of rock (including rock under the oceans) and soil.
- Soil, air, water and sunlight support life on Earth.

1 Rocks

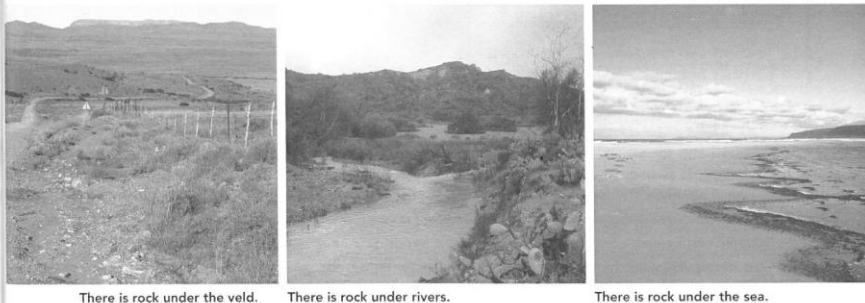
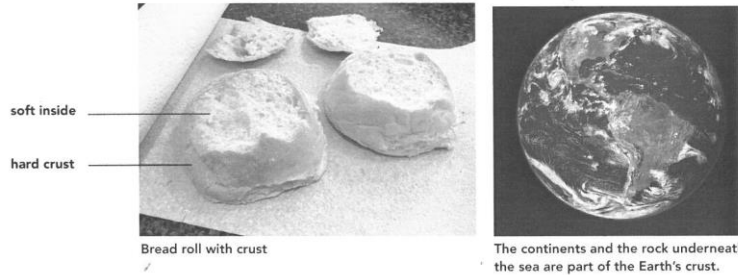
TEACHER TASK

Introduction

Explain

1. The Earth is made of rocks. We say it is a rocky planet. The surface of the Earth that we live on is called the crust.
2. Bring a round bread roll or vetkoek to the class and break it open to show the crust around the outside of the roll. Explain that the Earth has a similar crust made of hard rock. But the inside of the Earth has softer melted rock, like the softer inside of the bread roll.

There is rock under all the different places on Earth. There is rock underneath the sea and the land. There is rock underneath the beach sand and the desert sand. There is even rock underneath rivers and mountains:



There is rock under the veld.

There is rock under rivers.

There is rock under the sea.

Activity: Rock breaks down into particles

TEACHER TASK

Preparation

1. Bring a selection of stones and rock samples to the classroom.
Note: Avoid bricks and concrete – they are not natural rocks, but man-made materials. Help learners to distinguish between man-made concrete and bricks, and natural stones and rocks.
2. Make sure each group has two or three rock samples to look at.
3. Provide pieces of clean paper and a small water bottle.
4. Help learners to describe their rocks.

Word list to describe rocks and grains (adjectives)

English	isiXhosa	Afrikaans
gritty	hlalutye	grinterig
rough	rhabaza	grof
flaky	wecwana	vlokkerig
smooth	igudile	glad
grainy	nkozwana	korrelrig
sharp	bukhali	skerp
hard	qinile	hard
brown	mdaka	bruin
black	mnyama	swart
grey	ngwevu	grys
yellow	mthubi	geel

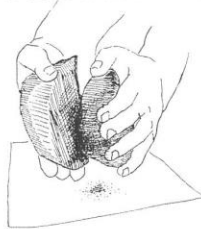
2 Soil comes from rocks

Learner Task Card 3 to photocopy on page 54

LEARNER TASK

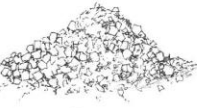


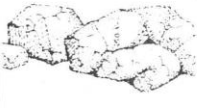
Activity: Making particles from rock

1. Take any two rocks and rub them together to grind them into particles or grains.
2. Take a small sample of the grains in your hands. Roll the sample in your hands.
3. Discuss these questions:
 - How does it smell?
 - What colour is it?
 - What can you see in it?
4. Take a small sample of your rock grains in your hands. Wet it to make it damp. Then roll it in your hands. How do the grains feel? Are they gritty like sand, smooth and soapy like silt, or sticky like clay?



5. Use the table below to help you decide what kind of particles you have.

Soil grains

Type of soil grains	How do the grains feel between your fingers?	Avakala njani amahlalutye xa uwava ngesandla?	Hoe voel die korrels aan jou vingers?
Sand			
 Coarse sand	The grains feel gritty and some are like small stones.	Amahlalutye arhabaxa amanye ngathi ngamatye amancinane.	Die korrels voel grinterig en party is soos klein klipies.
 Fine sand	The grains feel and sound gritty and the sand particles are small – like grains of sugar.	Amahlalutye arhabaxa mambi alingana neenkozwana zeswekile.	Die korrels voel en klink grinterig en die sanddeeltjies is klein – soos suikerkorrels.
Silt			
 Silt	The grains feel smooth, silky and soapy with some fine particles. They don't get sticky when wet.	Amahlalutyana ampuluswa esandleni kwaye amtyibilizi. Awabi ncangathi xa exutywe namanzi.	Die korrels voel glad, syagtig en seperig, en het sommige fyn deeltjies. Dit raak nie taai wanneer dit nat is nie.
Clay			
 Clay	The grains feel sticky when wet and can be rolled into a ball. The particles are very small. When dried the grains feel like fine powder.	Amahlalutya abancangathi xa emanzi kwaye angabumbeka abeyibhola. Xa omile avakale esandleni njengomgubo.	Die korrels voel taai wanneer dit nat is en dit kan in 'n bolletjie gerol word. Die deeltjies is baie klein. Wanneer dit droog is, voel die korrels soos fyn poeier.

Questions

1. Do all your rock grains look the same? Write to explain your answer.

No, all rock grains do not look the same. This is because they come from different rocks.

2. How long do you think it will take you to make one cup of grains?

It will take a very, very long time.

Consolidation

Learner Task Card 4 to photocopy on page 56

LEARNER TASK

Activity: How rocks break into grains by weathering

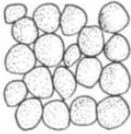
1. Draw a series of diagrams to show how a rock wears down into smaller pieces and grains over thousands of years.
2. Show how heat, cold, wind and rain can break a rock down into small pieces and grains.
3. Write a sentence below each drawing to explain what is happening. Use the word list below to help you.

WORD LIST

rocks, wind, water or rain, crack, break, heat, cold, stones, smaller, particles, grains

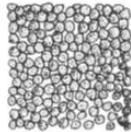
Sand

- large particles (grains)
- large air spaces in between the particles (grains)



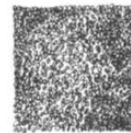
Silt

- smaller grains than sand, bigger than clay
- smaller air spaces between the grains

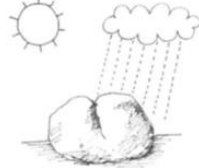


Clay

- smallest grains
- very small spaces between the grains.

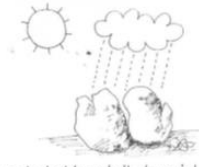


Rock today



Heat, cold and rain crack the rocks.

The rock 100 years from today



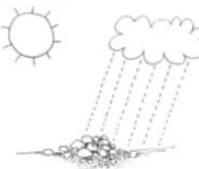
Water and wind break it down into smaller stones.

The rock 1 000 years from today



Water and wind break the rock and stones down even more.

The rock 100 000 years from today



Eventually the rock will break down into smaller grains.

Time



Time



Time



Consolidation

Learner Task Card 4 to photocopy on page 56

LEARNER TASK

Activity: How rocks break into grains by weathering

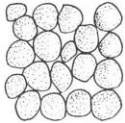
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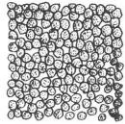
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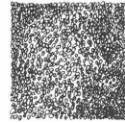
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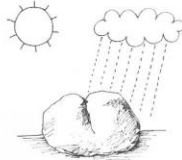


Clay

- smallest grains
- very small spaces between the grains.

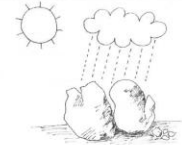


Rock today



Heat, cold and rain crack the rocks.

The rock 100 years from today



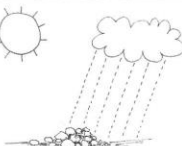
Water and wind break it down into smaller stones.

The rock 1 000 years from today



Water and wind break the rock and stones down even more.

The rock 100 000 years from today



Eventually the rock will break down into smaller grains.

Time



Time



Time



3 Soil types

Activity: What type of particles does loamy soil have?

TEACHER TASK

Introduction

Explain

1. Soil is usually a natural mixture of different types of rock particles. The type of soil depends on the proportions of the different particles in it.
 - **Sandy soil** has a high proportion of coarse sand particles (grains).
 - **Clayey soil** has a high proportion of fine clay particles.
 - **Loamy soil** has a mixture of sand, silt and clay particles, and it also contains humus.
2. We can find out what kind of particles make up the soil by stirring it up in some water. Then we can analyse the soil because the different particles settle out into layers.

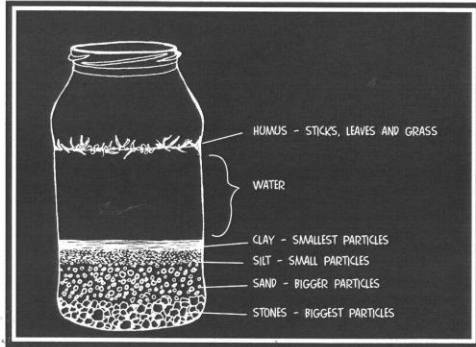
Preparation

1. Provide the following equipment for learners in groups.
 - 1 cup of loamy soil
 - 1 big coffee bottle with lid
 - water to fill up the bottle
2. Learners must mix their soil with water in the coffee jar, and let it stand for the particles to settle.
3. Afterwards, they must draw a picture on the chalkboard showing the different layers. Explain that this allows us to see the different particles that make up our soil, because they have separated into layers. We can also see how much of each kind of particle we have by the thickness of the layer.





- The biggest particles such as coarse sand and stones are the first to settle at the bottom.
- Fine sand particles settle next.
- Smaller particles of silt are the next to settle down.
- The smallest particles (clay) stay suspended (hanging) in the water for some time before they settle in the next layer. The clay usually makes the water look muddy.
- The humus (pieces of rotting plants) floats to the top of the water.
- Soil is a mixture of particles, which settle into layers when they are mixed with water. The constituents of soil always settle in the same order (as shown in the drawing below).



Why is loamy soil best for planting?

The best kind of soil for planting is called loamy soil.

- Loamy soil is a mixture of sand, silt and clay.
- Loamy soil also contains humus.

TEACHER INFORMATION

Proportions of loamy soil mixture:
 Clay: 8–28%
 Silt: 28–50%
 Sand: 25–52%



Farmers plant their crops in loamy soil.

The different particles that make up the soil give the soil its properties.

The clay particles hold the water so that the soil never dries out completely. The sand particles allow excess water to drain out of the soil because they have spaces between them for the water to run through. The spaces also trap air in the soil and make it light and soft. The clay, silt and rotting humus contain mineral salts (essential chemicals), which help plants to grow well.

Good soil feels soft and light because of the air between the particles. It contains humus and has very small organisms living in it.

Protecting our good topsoil

All soils form very slowly in nature. Once topsoil is lost it cannot be replaced easily and so we need to look after the soil, keep it in place and feed it with humus to keep it fertile.

We find different soils in different places

Soil from one area can be very different to soil from another. For example, soil from Khayelitsha contains mostly sand because the town is built on a sand dune. This means that you will not find a layer of clay when you analyse that soil. The layer of silt will also be very thin.



Soil erosion donga where the good topsoil has been washed away.

Soils that have a large proportion of sand are called sandy soils.

Other soils may contain mostly clay. They are called clayey soils. Other soils near river flood plains may contain a lot of silt.

Soil is considered a 'poor' soil when it does not contain a good mixture of all three particles. People struggle to grow plants if the soil is poor. That is why they add compost and fertiliser to enrich the soil.



It is difficult to grow food where the soil is very sandy.



Compost can be added to enrich poor soil.

Consolidation

Questions

1. What is loamy soil?

Loamy soil has sand, silt and clay particles in it and also humus. It is the best kind of soil for planting.

2. Why is it the best kind of soil for growing things?

Loamy soil is good soil for growing things because it has sand, clay and silt in it and also humus. This makes it fertile soil and the humus helps to keep the soil damp for plants to grow. Other organisms such as earthworms like to live in loamy soil.

3. Why must we look after our soil?

We must look after our soil because all food needs good soil to grow in. Soil can be washed away easily and it will take a very long time to form again.

NOTE TO THE TEACHER

How to do shared writing with your learners

- Learners tell the teacher what to write about the soil analysis using full sentences.
- Teacher captures the ideas on the chalkboard in the words of the learners.
- After each sentence is written, learners read the text aloud with the teacher.
- When the paragraph or text is complete, the learners help the teacher to edit the paragraph. Make sure of the following: there is a topic sentence; sentences are in a logical order, information is correct; grammar, spelling and punctuation is correct.
- The corrected paragraph is written up on the board. Learners read it aloud once more.
- Learners copy it into their science books.

Shared writing

Assist learners to write a few sentences about the soil analysis, for example:

Analysing loamy soil

First I mixed a cup of soil with water.

After that the soil settled.

I could see five layers of particles.

The small stones and bigger sand particles settled to the bottom layer. They are the biggest and heaviest particles.

The next layer to settle was the sand particles. Sand particles are smaller than stones.

The next layer to settle was silt particles. They are smaller than sand particles.

The next layer to settle was clay particles. Clay particles are the smallest particles. Clay makes the water look muddy.

Finally the sticks, leaves and grass float to the surface. The sticks, leaves and grass are called humus.

Activity: Comparing two different samples of topsoil

TEACHER TASK

Preparation

Provide two very different soil samples from different places for the learners to do the following task. We want the learners to see that soils from different places will have different proportions of the three particles.

**NOTE TO THE
TEACHER**

The purpose of this task is for learners to understand that: Different soils are able to hold different amounts of water.

Sandy soil usually does not hold water well because the water sinks down through the spaces between the grains.

Clayey soils hold water well because the spaces between the grains are very small and so water becomes trapped in those spaces.

Humus in the soil also absorbs water (like paper does).

PRACTICAL ASSESSMENT TASK

Investigation: How much water do different types of soil hold?

TEACHER TASK

Preparation

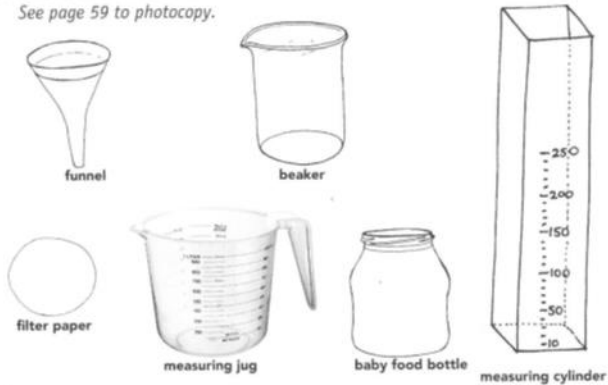
1. Explain to learners that they are going to investigate and compare different soils to find out how much water they can hold.
2. Learners can work in groups to test the different soils. But each individual learner must complete the table, the questions and the graph.
3. Provide each group with the following apparatus:

- spoons
- filter paper
- beakers or measuring cylinders
- baby food jars or measuring jugs
- samples of sandy soil
- clayey soil (pure clay can be bought at craft and pottery supply shops and clayey soil can be obtained at plant nurseries)
- loamy soil (rich garden soil or potting soil from a plant nursery are good examples of loamy soil).

Note: Soil samples can be dried and used again after this investigation.

4. Hand out the Learner Task Card 6 and assist learners to read it.

See page 59 to photocopy.



5. Assist learners to fold the filter paper and to set up the apparatus correctly. Teach the learners how to use a beaker and measuring cylinder, and to take accurate readings from them using the correct units.
6. Assist learners to do the calculation correctly after taking their measurements.
7. Assist learners to draw a bar graph like the one on page 27. See graph paper on page 61.

PRACTICAL ASSESSMENT TASK

Investigation: How much water do different types of soil hold?

LEARNER TASK

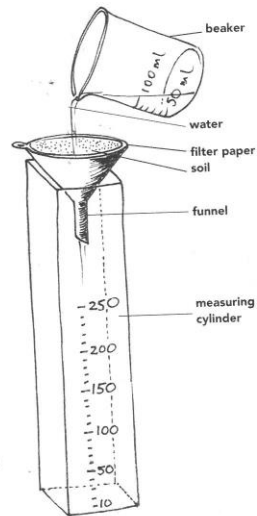
Groupwork

Before you start, write down at least two things you know or could find out about your soil at home.

1.
2.

Method

1. Fold the filter paper and place it in the funnel. Then set up the funnel and measuring cylinder as shown.
2. Fill the funnel about three-quarters full with dry, sandy soil (make sure there are no lumps).
3. Measure 100 ml of water into a beaker or baby food bottle. Slowly pour all the water into the middle of the soil.
4. After a while, the water will start dripping through the soil into the measuring cylinder.
5. Wait for the water to stop dripping and then measure how much water is in the measuring cylinder.
6. Calculate how much water remained in the soil. The amount of water poured into the soil (100 ml) minus the amount of water in the cylinder equals the amount of water held by the soil.
7. Record your readings in the table and complete the calculation.
8. Do the same for the clayey soil and the loamy soil.



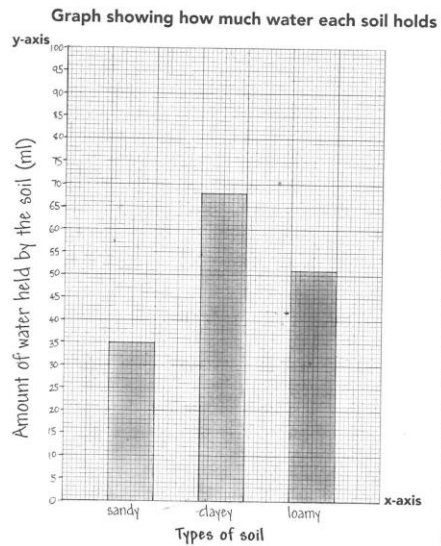
Recording table (example readings)

Type of soil	How much water did you pour into the soil? (ml)	How much water dripped through into the measuring cylinder? (ml)	Calculate: how much water stayed in the soil? (ml)
Sandy soil	100 ml	65 ml	100 ml - 65 ml = 35 ml
Clayey soil	100 ml	32 ml	100 ml - 32 ml = 68 ml
Loamy soil	100 ml	49 ml	100 ml - 49 ml = 51 ml

10. Draw a bar graph of your results.

Questions

1. Which soil lets the most water drip through?
The sandy soil lets the most water drip through.
2. Which soil holds the least water?
The sandy soil holds the least water.
3. Which soil lets only a small amount of water drip through?
The clayey soil lets only a small amount of water drip through.
4. Which soil holds the most water?
The clayey soil holds the most water.
5. What can you say about loamy soil and how it holds water?
Loamy soil holds more water than sandy soil, but not as much as the clayey soil.



Bonus questions (higher order questions)

1. Why do you think some soils let the water through easily?
Sandy soils let the water through easily because they have bigger particles with spaces between them. The water can flow out through the spaces.
2. Is it a good or bad thing for soil to let the water drain away easily?
If the water drains away too easily then there will not be enough water for the plants to grow, which would be a bad thing.

NOTE TO THE TEACHER

Learners must do the investigation and take their own readings which will be different for each group.

Assessment

Checklist with criteria and possible mark allocation

Assessment to check learners' knowledge	Criteria	Possible mark allocation
<p>Can learners: Find out about soil at home or at school?</p>	<p>The learners' ideas could include finding out about:</p> <ul style="list-style-type: none"> • Colour and texture of the soil. • Analysing the soil to show its composition i.e. how much sand, clay, silt and humus in the soil. • What kind of plants and animals are found growing and living in their soil. • Etc. 	2 marks for each observation
Carry out a procedure and record findings?	<p>Learners must:</p> <ul style="list-style-type: none"> • Set up the apparatus correctly. • Make accurate measurements. • Record the measurements correctly. • Correctly calculate the volume of water held by the soil. 	6–10 marks
Draw a bar graph?	<p>Learners must:</p> <ul style="list-style-type: none"> • Plot the bars accurately. • Name and label the x-axis. • Name and label the y-axis. • Provide a suitable heading. 	8–10 marks (including a mark for neatness)
Answer the questions about their findings?	<p>Learners must show they understand that:</p> <ul style="list-style-type: none"> • Sandy soil will hold the least water. • Clayey soil will hold the most water. • Loamy soil will hold more than the sandy soil but less than the clayey soil. • Sandy soil does not hold water well because the air spaces between the particles are large and the water drains through them. <p>Give at least one reason why they think that it is good or bad for soil to drain water easily.</p>	8–10 marks including higher order questions

Adjust the marks to a mark out of 15 for recording the formal practical assessment task.

ADDITIONAL INFORMATION

LIVING SOIL

Healthy soil is alive with millions of organisms. Many are so tiny that they can live in the spaces between the soil particles. Insects and other creepy crawlies live in the leaf litter and soil below it, where they break down dead plants and animal matter. Some larger animals make tunnels in the soil, some make nests, while others keep cool and safe in burrows and only emerge to feed at night.

Common moles live in burrows and make large molehills as they push up the soil. These rodents have large front teeth and claws that they use for digging. Moles feed on plant bulbs.

Termites live in termite mounds. The **queen** lays eggs and is guarded by **soldiers**, while the **workers** find food. Termites carry plant matter underground and this helps to fertilise the soil.

Hadedas use their long beaks to dig for insects and earthworms.

Aardvarks live in burrows and come out at night to break open termite nests for food.

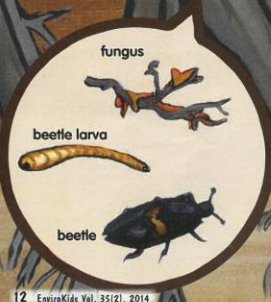
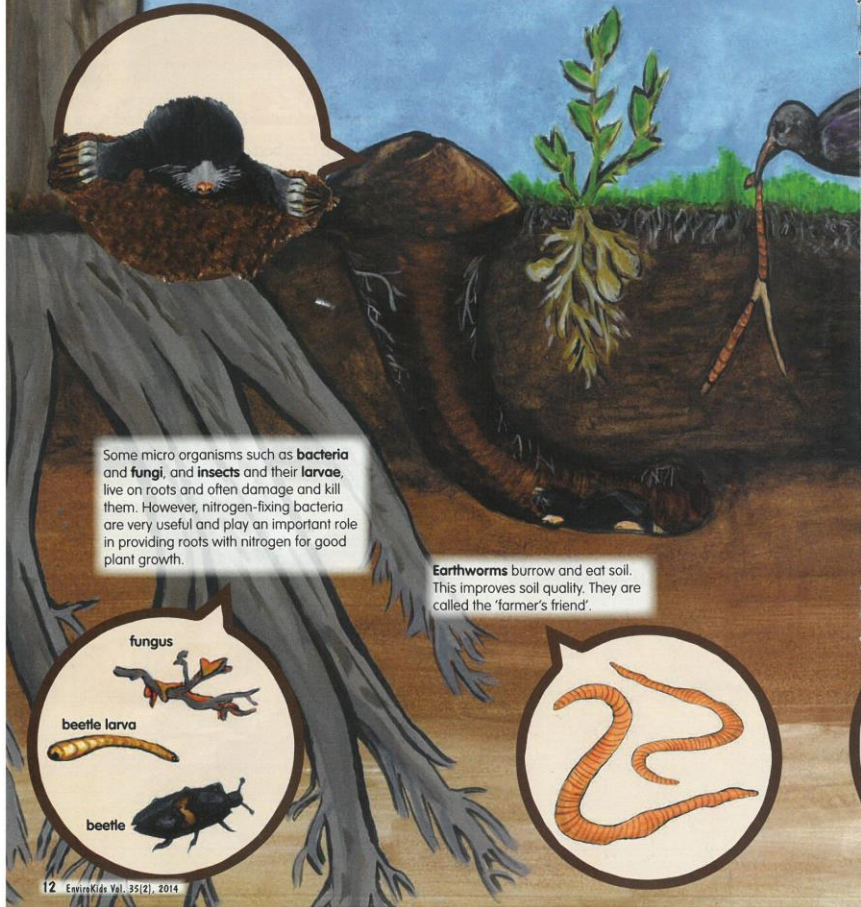
Pangolins have big claws, and a long sticky tongue to lick up termites, their favourite food.

Some micro organisms such as **bacteria** and **fungi**, and **insects** and their **larvae**, live on roots and often damage and kill them. However, nitrogen-fixing bacteria are very useful and play an important role in providing roots with nitrogen for good plant growth.

Earthworms burrow and eat soil. This improves soil quality. They are called the 'farmer's friend'.

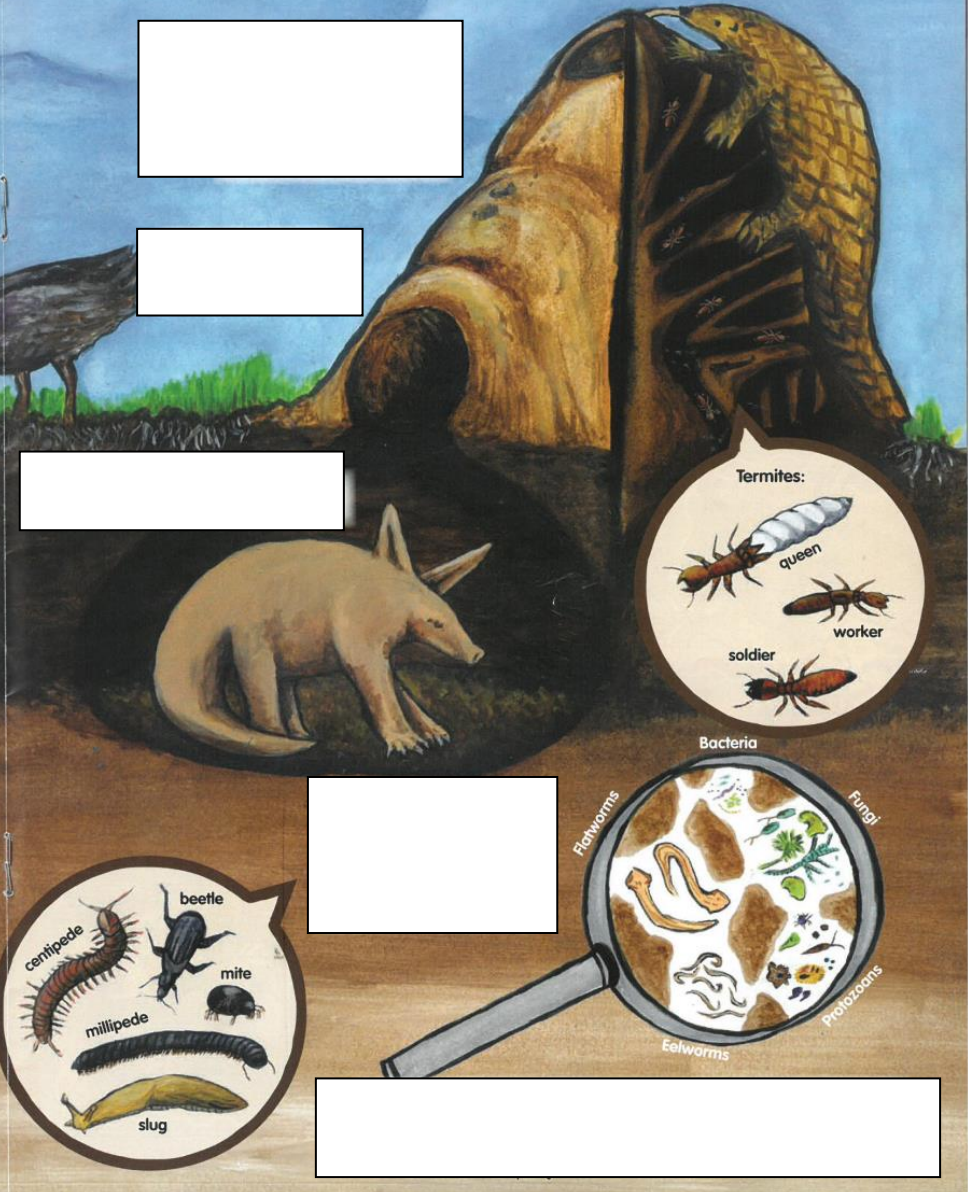
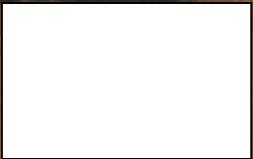
Many **creepy crawlies** are found in leaf litter. Most help to break down dead plants and animal matter and recycle nutrients in the soil.

Microscopic plants and animals live in the spaces between the soil particles. Some microbes enrich the soil and break down organic matter. Some eelworms damage roots, but others are useful and eat harmful bacteria.



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Words to copy and cut out

Common moles live in burrows and make large molehills as they push up the soil. These rodents have large front teeth and claws that they use for digging. Moles feed on plant bulbs.

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Badgers use their long beaks to dig for insects and earthworms.

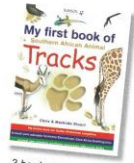
Aardvarks live in burrows and come out at night to break open termite nests for food.

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PUZZLES

NAME THE SOIL ANIMALS

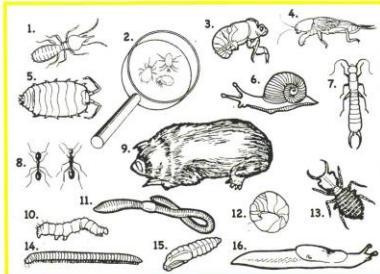
The picture shows some of the animals that live in soil. Match the numbers on the pictures to the animal names below.



3 books to be won.



3 books to be won.

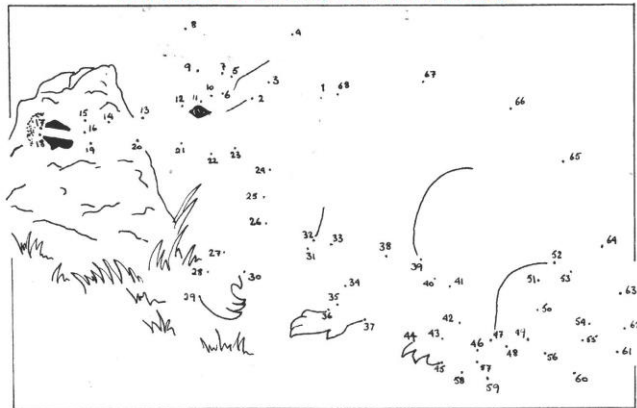


List your answers on a sheet of paper and attach it to a completed copy of the competition entry form on the next page. Send it to *EnviroKids* and you could be one of our winners!

- | | |
|---------------|----------------|
| ANT | MITES |
| ANTLION LARVA | MOLE |
| CATERPILLAR | MOLE CRICKET |
| CICADA NYMPH | PILL MILLIPEDE |
| EARTHWORM | SLUG |
| EARWIG | SNAIL |
| INSECT PUPA | TERMITE |
| MILLIPEDE | WOODLOUSE |

WHO IS HIDING IN THE PICTURE?

Join the dots to find out. Check your answer on the next page.



SOIL WORD SEARCH

Find all the words below and then look for the unused letters that will tell you what helps to keep soil healthy. Some letters are used more than once and words can go in any direction, but always in a straight line.

E	D	E	P	I	L	L	I	M	C
D	C	E	F	I	L	I	O	S	A
S	A	O	H	T	R	A	E	I	T
K	M	R	M	R	O	T	R	T	E
F	C	R	K	P	I	★	R	O	R
D	O	O	O	M	O	I	T	O	P
N	W	O	R	W	D	S	W	R	I
A	E	E	D	E	H	O	T	T	L
S	T	N	E	I	R	T	U	N	L
N	U	S	★	G	S	F	R	A	A
C	L	A	Y	E	L	O	M	A	R
D	I	G	N	O	I	S	O	R	E

Send the missing word and a completed copy of the entry form to *EnviroKids* and you could win a prize.

- | | | | |
|----------|------------|-------------|------|
| AIR | ANT | CATERPILLAR | |
| CLAY | DARK | DIG | DIRT |
| EARTH | EARTHWORMS | | |
| EROSION | FOOD | GROW | |
| LIFE | MILLIPEDE | MOLE | |
| NEST | NUTRIENTS | ROCK | |
| ROOT | ROT | SAND | |
| SEED | SOFT | SOIL | SUN |
| TERMITES | TOP | WET | |

ANSWER: An ant is hiding in the picture.

PRIZE-WINNERS FROM *ENVIROKIDS* VOL. 35(1) HEALTHY RIVERS HEALTHY PEOPLE

In order to allow enough time for readers to enter competitions, the winner's names will be printed in the next issue.

Competition Entry Form. Copy, fill it in and send to *EnviroKids*, P.O. Box 30145, Tokai, 7966.
Competition deadline 30 July 2014.

Name (code) Age

Postal Address:

Code: E-mail: Are you a WESSA member? YES NO

What are your 4 favourite pages in this issue? Page numbers

What would you like to read about in *EnviroKids*?

NOTE: Each entry must have a completed copy of the entry form attached. Providing an e-mail address helps us to inform you of the parcel tracking number if you are a winner. Send all entries in one envelope to save stamps and paper. Competitions are open to all children of 15 years and under.